

# RECENT TRENDS IN TUBERCULOSIS CONTROL\*

California State Director of Public Health

This year marks the fiftieth anniversary of the great antituberculosis movement in the United States. This movement was started by the National Association for the Study and Prevention of Tuberculosis, now called the National Tuberculosis Association.

Great changes have occurred in the tuberculosis picture in this Country since the days when tuberculosis was known as the Great White Plague and was the first cause of death. The work of one of our greatest voluntary health agencies has been persistent and ever present in furthering these changes. We recall that the first public health nurse was a tuberculosis control nurse, and that the tuberculosis organizations have sponsored and helped maintain official health departments in all parts of the Country, and ave even organized some. This significant role is being continued, as evidenced, for example, by the great support the San Francisco Tuberculosis and Health Association gave to the recent bond issues concerned with ublic health. I am sure we are gratified to see the program of tuberculosis associations projecting into broader fields of public health.

### **Current Status of Tuberculosis Control**

The continued fall in the death rate of tuberculosis has been one of the remarkable happenings of our times. All of the reasons for this continued fall are not clear-probably are complex. The fall in California from 1920 onward has been at a rate of 5 to 10

Presented at Kickoff Luncheon for Seal Sale, San Francisco Tuberculosis and Health Association, November 22, 1954.

percent annually, but since 1946 the rate has increased to about 25 percent a year. Action of the new drugs, linked with other recent advances in therapy, has proved highly effective in lowering the death rate. The alltime low death rate in California of 11.4 per 100,000 was achieved in 1953.

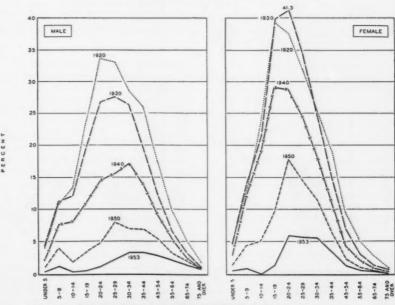
At the same time, the age distribution of deaths due to tuberculosis has

changed. In the adolescent age group, 15-19, tuberculosis in 1920 caused about 33 percent of male deaths and 39 percent of female deaths. In 1953 tuberculosis was the cause of only 1 percent of male deaths and 2 percent of female deaths in the adolescent group. (Figure 1.)

In recent years the case rates show that the incidence of tuberculosis in

### FIGURE 1

PERCENT OF DEATHS DUE TO TUBERCULOSIS (ALL FORMS) BY AGE AND SEX CALIFORNIA, DECENNIAL YEARS 1920 - 1950 AND 1953 BY PLACE OF OCCURRENCE 1920, 1930 AND 1940 BY PLACE OF RESIDENCE 1950 AND 1953



U. S. PUBLIC HEALTH SERVICE, TUBERCULOSIS IN THE UNITED STATES, STATE OF CALIFORNIA, DEPARTMENT OF PUBLIC HEALTH, DEATH RECORD

females is still high in early womanhood, but declines after 35, whereas in males the case rate continues upward after 35. (Figure 2.)

The state-wide reporting of new cases has declined much more gradually than the mortality rate. In fact, there were 192 more new cases reported in 1953 than in 1952 in California, but when weighed against the increase in population, the case rate per 100,000 actually declined. The 1953 rate was 69.4 cases per 100,000. This was only a 2 percent decrease from 1952. And, there has been a total decrease of only 19.5 percent in the past five years.

So, despite the remarkable reduction in death rate, the problem of tuberculosis is still with us, and it behooves us to improve our case-finding techniques. Case finding becomes even more important as newer treatments allow us to deal with cases more effectively. As cases become fewer and fewer, each one becomes relatively more significant in the spread of this disease.

#### Areas of High Incidence

It becomes increasingly important to seek cases of tuberculosis in areas where they are most likely to be found. For instance, in San Francisco, in 1952, 60 percent of the cases came from only three census tracts in the city. Plans can be made to place the most intensive case finding efforts in these special areas.

## **Tuberculin Testing**

Another concept of case finding now emerging is based on tuberculin testing. As tuberculosis decreases it becomes possible to measure the tuberculinization of a community and use this as an index of tuberculosis prevalence. This method has been used in Minnesota where they have found counties with no cases of tuberculosis for several years, and in other counties tuberculin testing in the upper grades of high schools has revealed a small percentage of positive reactions. In our own State, the City of Alameda has revealed an over-all positive reaction of 5 percent among upper high school students. In the future, it may be wise to confine our

case-finding activities to those communities with high tuberculin rates.

In large cities, where there is a great admixture of population, tuberculin testing may not be effective. For such cities, concentrated effort may best be directed to the census tracts of known high prevalence, the jails, the hospitals, the clinics, and physicians' offices. In Los Angeles, the tuberculosis association set up a program in the county hospital which finds about one-tenth of the morbidity of the State. A continuous program has also been set up in the county jail which is also an effective casefinding effort.

Selective case-finding is the magic word of the moment. Your association should be commended for the long-time support of the case-finding units located at the San Francisco Hospital, at the City Health Department, as well as at other local centers.

## **Hospitalization and Treatment**

As you are aware, great changes are taking place in the treatment of tuberculosis. The state tuberculosis subsidy program was set in operation in 1914. It offered counties a subsidy of \$3 a week for every tuberculous patient they housed and treated according to adequate standards of the moment. The counties have accepted this responsibility and now maintain 7,206 beds for tuberculosis patients.

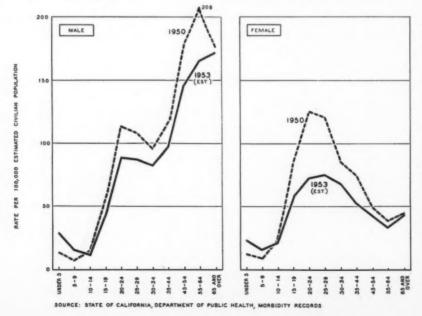
In recent years this subsidy has been increased to meet rising costs incident to general inflation and increased costs of the more advanced medical and surgical treatment of tuberculosis. It now amounts to \$2.95 per patient day, which is still only approximately one-third the total cost of hospital care.

It is interesting to note that there was a 10 percent reduction in bed use in 1952 over the previous year, with a continued reduction in 1953, and again in the current year. Even those institutions that in the past have had large waiting lists have managed to clear their lists, and it is now common to find many institutions with vacant beds. This is largely the result of drug therapy and the increased use of surgery.

As the need for tuberculosis hospital beds decreases, new ways of utilizing these facilities should be explored. With the tremendous need for facilities for care and rehabilitation

#### FIGURE 2

CIVILIAN CASE RATES FROM TUBERCULOSIS (ALL FORMS) BY AGE AND SEX CALIFORNIA 1950 AND 1953 (BY PLACE OF RESIDENCE, EXCLUSIVE OF STATE INSTITUTIONS)



of the chronically ill, it is more economical to use these existing facilities than build new ones. Associations such as yours have a responsibility in pointing out such opportunities.

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The tuberculosis institution, all authorities agree, is still the place of choice to begin treatment of the tuberculous patient. This not only affords isolation during the infectious stages, but also allows opportunities for patient education. This education is essential because the patient must follow a long regime to prevent future breakdowns of his disease. New drugs have shortened the infectious period. so that it is now possible to discharge the patient earlier and continue treatment at home or in clinics. Present opinion is that drugs should be continued for six months to a year or more after the patient has reached a period of stability of his disease. This creates a new problem for local health departments, because in many instances it is the health department in the home community that must provide and supervise drug treatment of these patients.

Adequate support for the health department in assuming new and augmented responsibility for the home care of the tuberculous patient must be assured. Frequently, the need for additional nurses for home visiting, social workers, and possibly house-keepers must be considered.

## Patient Services—Public Health Education

One of the most important contributions of tuberculosis associations has been the provision of patient services. One extremely valuable patient service is the provision of proper health education facilities to tuberculosis institutions that are not able to provide their own. In this way patients can be properly and carefully helped to adjust to their disease, and to many of the problems that so often

accompany tuberculosis.

In Chicago, a follow-up study of 1,000 patients has been recently completed. They had been rendered noninfectious by shortened institutional care followed by drug treatment in clinics. During the period of institutional care, patient education was emphasized. In one year there was a relapse rate of only 1 percent. In a similar group that had no institutional care or education, but were given treatment in their homes or in

clinics, it was found that these patients were noncooperative, refuse surgery, and did not follow drug therapy for adequate periods to obtain permanent results.

Your association is to be congratulated for its interest in patient services at the San Francisco Hospital. There have already been startling results in the attempts to better indoctrinate patients at the time of their admission.

Here is an area of services that becomes even more important with the changing situation.

## Rehabilitation

Likewise, rehabilitation is a field of patient services that your association has intensified. While we are not yet prepared to say whether drug treatment requires the same careful type of life for the tuberculous patient as was formerly needed, yet the period of home care under drug therapy, and the period of institutional care, call for careful estimation of vocational abilities and needs, and ways of supplying those needs.

Patients in the early stages of tuberculosis now respond so favorably and with such a minimal disruption of their lives that this group tends to require fewer and briefer rehabilitation services than before. On the other hand, tuberculosis is being controlled in a larger proportion of patients who have more serious forms of the disease. It is in this latter group that proper rehabilitation is so important.

## **Recalcitrant Patients**

As I mentioned earlier, the decrease of possibilities of infection makes the potential danger of each spreader of disease more acute. Consequently, the hardened, so-called "recalcitrant" tient, on whom all attempts at achieving cooperation fail, is an increased menace. California now has laws allowing the health officer, at his discretion, to quarantine these patients and if they break quarantine to have them convicted of a misdemeanor and confined for a period of six months. The period is extended to one year for a second offense. California maintains 25 beds in a hospital facility of the Department of Corrections, located at Terminal Island. So far, 125 patients from 32 jurisdictions have been cared for. Of these, two-thirds are now under adequate isolation in their home

communities. This threat of possible enforced isolation no doubt has resulted in hundreds of other patients carefully following isolation orders at home. The effect of the possible misdemeanor conviction on potential recalcitrant patients is far more helpful than the actual application of enforced isolation to the few. Next year, this prison hospital will be moved to a new facility at Vacaville, where more beds will be available to the State than at present.

#### What of the Future?

There is every reason to believe, unless war or economic crisis destroys our present control measures, that deaths will continue to decline and cases become fewer in number. Indications are, however, that the case rate will not decline as rapidly as the death rate.

Treatment will continue to become more effective, although at the present writing, it is not known how many will relapse in the future with tubercle bacilli that may become resistant to drugs. Hospitalization during the infective stage, with proper public health education, will continue to be essential.

Case-finding techniques should be intensified, especially in specialized areas of high infection rate. This means that more and more we must look to selective case finding, working outward from the known case, or known high prevalence group.

It is becoming even more important than ever that case finding, treatment and rehabilitative services be coordinated. To assure coordination each local tuberculosis control unit should be headed up by a so-called tuberculosis controller, whose prime work should be the effective administration of known control measures. Diffuse control, such as divided responsibilities in the same community, should be avoided. Hospital and public health responsibility is the same. This is now being demonstrated in San Francisco with the new control officer.

Health departments should cooperate in the prolonged administration of drug therapy where otherwise un-

provided.

Tuberculosis hospital facilities should be integrated ever closer into the total hospital resources of the community, so that as the need for hospital beds decreases, an orderly transition can be made to the utilization of these beds for other purposes, particularly for other chronic ill-

Despite all the progress that has been made in tuberculosis control, we must be ever watchful. While tuberculosis is rampant in other parts of the world, we cannot expect to be tuberculosis-free here. Nor can we afford to allow our own cases to spread the disease from within. Your association still has a tremendous job to do in tuberculosis control. While continuing to do this job. I am confident you will continue your gradual transition to the broadened interests for which your name provides-Tuberculosis and Health Association.

Your contributions through the years to the health and welfare of the community has amply justified the trust that the public has placed in

## UC Students Stricken With Food Poisoning After Thanksgiving Dinner

Ninety-seven University of California students became acutely ill after eating a Thanksgiving turkey dinner which had been prepared in the central kitchen of a group of five student cooperative residence halls. Tests made at the State Department of Public Health laboratory of samples of the food eaten by the students showed the presence of Salmonella organisms in the turkey, the dressing and the gravy.

About 300 students ate the food in the five residence halls operated by a cooperative association of students, but only 97 were affected. Of the 97, 33 required hospitalization at the university's Cowell Memorial Hospital for from five to six days, 25 were treated by the hospital on an outpatient basis; and 39 were ill but did not require treatment. Symptoms of fever, nausea, vomiting and diarrhea developed in those affected in from 8 to 35 hours after eating the holiday meal.

There was no illness among the students who ate at the hall from whose central kitchen meals are prepared for the other four houses in the studentrun cooperative. At another of the houses, only one became ill and at a third only four were affected, but

## NOTICE OF HEARING

The State Board of Public Health will hold a public hearing on January 7, 1955, at 10.30 a.m., in Room 709, State Building, 217 W. First St., Los Angeles, on the proposed amendment of Section 2564, Article 3, Subchapter 1, Chapter 4, of Title 17, California Administrative Code, pursuant to the authority of Section 208 of the Health and Safety Code.

The change is proposed because the present definition of diarrhea of the newborn does not include all illnesses generally considered to fall into that classification.

Copies of the proposed regulations are available for inspection in the California State Department of Public Health, Los Angeles and San Francisco offices, and are made a part of this notice by reference.

> MALCOLM H. MERRILL, M.D. **Executive Officer** State Board of Public Health

of the remaining two houses of the group over three-fourths were stricken in one, and in the other almost 60 percent.

As soon as cases began to come in to the university's hospital on the day after Thanksgiving, an investigation was launched by the university with the cooperation of the Berkeley Health Department and the State Department of Public Health. Tests completed by the State Health Department's bacteriology laboratory showed Salmonella to be present in the food samples, but intensive investigation is being conducted to determine at what stage in the food handling the infection took place.

## Registration Exam for Sanitarians

An examination for registration as a sanitarian in California will be held February 16th in Berkeley and Los Angeles. Final date for filing is February 2d. Candidates wishing to take this exam to qualify for a registered sanitarian certificate may obtain further information from the Bureau of Sanitary Engineering, State Department of Public Health, 2180 Milvia Street, Berkeley 4.

## **Public Health Positions**

## Long Beach

Public Health Nurses: The Long Beach Department of Public Health has two vacancies. Salary range, \$343-\$417. For a generalized program, school nursing not included. Car furnished. Department serves population of 277,000. Nursing staff includes a director, one supervising nurse, 5 clinic nurses and 12 staff nurses.

For further information write I. D. Litwack, M.D., Health Officer, Long Beach Department of Public Health, 2655 Pine

Avenue, Long Beach.

#### City of Pasadena

Sanitarian: Opening for registered sanitarian. Salary range, \$344-\$419. Pasadena residence is not required. Apply to Personnel Department, City Hall, Pasadena.

## San Diego

Public Health Veterinarian: Salary range \$438-\$532. California license required before appointment. Requires master's degree in public health in addition to three years of experience in licensed practice of veterinary medicine, of which at least one year must have been in a recognized public health setting. Applications on official forms desired by January 12, 1955. Write County Civil Service, Civic Center, San Diego.

Public Health Nurses: Salary \$327-\$397. Applicants must possess a California Public Health Nursing Certificate. Duties include general public health nursing, including school health service.

Write J. B. Askew, M.D., Director, Department of Public Health, Room 044, Civic Center, San Diego.

## Personal Notes

DR. EDWARD KUPKA, on two years' leave of absence from the Bureau of Tuberculosis, California State Department of Publie Health, at last report was deeply engaged in the monumental task of seeing to the medical and health needs of evacuees from the areas of Viet-Nam recently taken over by the Reds.

DR. BELLE DALE POOLE, Child Health Consultant in the California State Department of Public Health, Los Angeles office, has returned after a year as professor of maternal and child health with the Department of Preventive Medicine and Public Health of the American University, Beirut, Lebanon.

MISS MARIAN DAVIS, Supervising Occupational Therapist, has returned to the department after spending six weeks in Japan under auspices of the World Health Organization.

MRS. MATHILDE BERRETTINI, 0ecupational Therapist assigned by the department to San Leandro, has resigned to accept a Fulbright Commission Grant to work in a new cerebral palsy unit in Rome.

MRS. BEVERLY CARROLL, Occupational Therapist assigned to Fresno, has resigned to accept an overseas appointment with Special Services and will be either in France or Germany.

## DIPHTHERIA — A CONTINUING PROBLEM

Diphtheria has declined markedly in California. However, cases do still occur, singly and in groups.

With this decline there has been a shift in age distribution from early childhood to adolescence and early adulthood.

The principle control measure is diphtheria immunization. Continued vigilance is needed to see that children receive adequate immunization. With the shifting age distribution of diphtheria, greater attention also needs to be given to the problem in older children and adults.

27th, 1954) there were only 623 eases reported, with 76 deaths.

The Sacramento outbreak occurred in the Del Paso Heights residential area of North Sacramento. Four of the cases, and the deaths, were in one family. The fifth case, a 14-year-old boy, lived three houses away in the same block, and had served as baby sitter in the first household. The sixth case lived several blocks away, but no direct association could be established. Ages ranged from 3 to 16 years.

Laboratory tests on three of the cases showed the outbreak to be due

Six recent cases of diphtheria, with one death, in Sacramento County, again focuses attention on the importance of diphtheria booster shots in keeping high the community level of immunization. While all cases showed a history of having been immunized against diphtheria, only one had received a booster injection. For the others, the interval since receiving primary injections ranged from three to nine years.

(Three more cases and a second death have been reported from Sacramento County. As of December 7th, the investigation had not shown any direct association with the first outbreak.)

The trend of diphtheria toward becoming a disease of adolescence and early adulthood is borne out in statistics compiled by the State Department of Public Health over a period of the past 30 years. In the five-year period 1925-29 only 25 percent of cases occurred after 15 years of age. In the period 1950-54 cases occurring after the age 15 have been 62 percent of the total. This trend shows even more plainly in the diphtheria deaths, as noted in the accompanying graphs and tables. In 1925-29 approximately 80 percent of the diphtheria deaths occurred in children under 9, and only 12 percent in the age brackets above 15. Contrasted with this, in the 1950-54 period, only 30 percent of the deaths were occurring in children under 9, as compared with 67 percent over 15.

Cases of diphtheria have dropped dramatically in the past 25 years, and largely through childhood immunization. In the five-year period 1925-29, nearly 26,000 cases were reported in California, with 1,347 deaths. In the period 1950-1954 (through November

TABLE 1

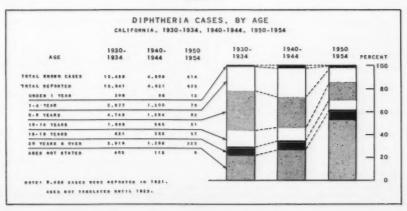
CASES AND DEATHS—DIPHTHERIA—PERCENTAGE \* DISTRIBUTION BY AGE GROUPS

1925-1949 in	Five-year	Periods
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Cases	1925-1929		1930-1934		1940-1944		1950-1954*	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
Under 1 year	450	1.8	208	1.6	98	2.0	13	2.1
1- 4 years	5,276	21.2	2,877	21.4	1,200	24.9	76	12.4
5- 9 years	9,061	36.3	4,748	35.3	1,294	27.0	92	15.0
10-14 years	3,517	14.1	1,865	13.9	565	11.8	51	8.3
15-19 years	1,444	5.8	821	6.1	353	7.3	57	9.3
20 and over	5,183	20.8	2,919	21.7	1,298	27.0	325	52.9
Totals	24,931	100.0	13,438	100.0	4,808	100.0	614	100.0
Not stated	958		403		113		9	
Total reported	25,889		13,841		4,921		623	
Deaths								
Under 1 year	61	4.5	53	6.5	22	5.4	1	1.3
1- 4 years	578	43.0	349	43.0	141	34.8	13	17.1
5- 9 years	435	32.3	235	28.9	102	25.2	9	11.8
10-14 years	116	8.6	55	6.8	17	4.2	2	2.6
15-19 years	30	2.2	13	1.6	4	1.0		
20 and over	127	9.4	107	13.2	119	29.4	51	67.1
Totals	1,347	100.0	812	100.0	405	100.0	76	99.9

Percentages based upon known ages.
Cases to November 27, 1954, deaths to October, 1954.

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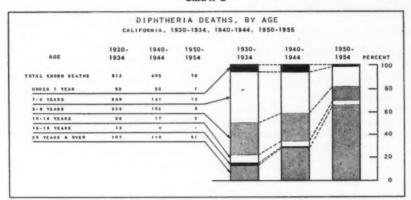
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GRAPH 2



to the gravis strain, most virulent of diphtheria strains. No specific source for the cases was found. The State Department of Public Health assisted in the investigation at the request of the Sacramento County Health Department.

The low level of community immunization was noted in a school and community survey conducted since the outbreak in the Del Paso Heights area. Less than 50 percent of the kindergarten through second grade students who were checked in the Del Paso elementary school in October gave a history of adequate immunization, and this percentage fell to 34 among 5-15 year olds in the Del Paso neighborhood. The summary of immunization status is given in the following table:

TABLE 2 SUMMARY OF DIPHTHERIA IMMUNIZATION STATUS IN SELECTED GROUPS SACRAMENTO COUNTY, CALIFORNIA

October, 1954

Group	Age Total		History of immuniza- tion*		Adequate immuniza- tion†		No immuniza- tion		Unknown	
			No.	%	No.	%	No.	%	No.	%
Del Paso Elementary Kindergarten, a.m Kindergarten, p.m 1st grade 2d grade	5 yr. 5 yr. 6 yr. 7 yr.	32 25 32 36	18 17 18 19	56.3 68.0 56.3 52.7	16 17 15 11	50.0 68.0 46.8 30.6	6 5 6 7	18.7 20.0 18.7 19.5	8 3 8 10	25.0 12.0 25.0 27.8
Subtotal		125	72	57.6	59	47.2	24	19.2	29	23.2
Neighborhood groups Group 1AGroup 2A	5 yr. 5 yr.	11 11	7 8	63.6 72.7	6	54.5 36.3	2 3	18.2 27.2	2	18.2
Total under 5		22	15	68.2	10	45.4	5	22.7	2	9.1
Group 1BGroup 2B	5-15 5-15	7 28	6 25	85.7 89.2	4 8	66.6 28.5	3	10.7	1	
Total 5-15		35	31	88.5	12	34.3	3	8.6	1	2.9
Neighborhood groups totals		57	46	80.7	22	38.5	8	14.1	3	5.2
Grand totals		182	118	64.8	81	44.7	32	17.6	32	17.6

-Persons living near Cases 1-5.

As a result of the outbreak and the low level of immunization as revealed in the survey, immunizations have been offered to school children under 10 years of age through cooperative efforts of physicians, the school authorities and the county health department. Educational efforts emphasizing the need for adequate immunization have been intensified in the affected neighborhood.

## Swine Disease Brings Public Health Protection to Californians

For years public health authorities have strongly recommended cooking of raw garbage before feeding it to hogs as a measure of protection against the transmission of trichinosis to humans. Little headway was made in California until an epizootic of vesicular exanthema spread from California to other states in 1952 and threatened the hog-raising industry. As an indirect result Californians will be in less danger of trichinosis.

Drastic control measures had to be taken to save the industry and remove the threat of vesicular exanthema to the hog industry of other states as well. Since the highly contagious disease (which is not transmitted to humans) is spread by the feeding of raw garbage, strict quarantine measures were instituted by the State and Federal Departments of Agriculture. All counties of the State were placed under state and federal quarantine, and the quarantine was lifted as the feeding of raw garbage to hogs was discontinued.

To be released from quarantine, hog ranches had to install approved garbage cookers or change to grain feeding. Twenty-nine counties in California are now entirely free of quarantined ranches. All of the State's counties have now been released from general federal quarantine and only individual premises on which raw garbage has been fed to swine within 30 days remain under quarantine. One hundred fifty-two individual premises are still under quarantine until they comply with the regulations.

Veterinarians of the State Department of Agriculture are carrying out the control program.

Group 2—Persons living near Case 6.

Defined as completion of a series of diphtheria innoculation at any time.

† Defined as having completed a series of diphtheria innoculation and having had boosters every five years and within the last five years.

## Health Center Construction in California, 1946 to Date

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Since 1946, 35 new health centers have been completed in California and 10 others are currently under construction or are in the planning stage. Of the total of 45 health centers completed, under construction, or in the planning stage, 17 have received financial assistance from Hilburton and State matching funds.

The 45 health centers include facilities ranging in size from the recently occupied nine-story headquarters building of the Los Angeles City Health Department, with its 151,120 square feet of floor space, to a subcenter for the Riverside County Health Department, with only 1,250 square feet of floor space.

Thirty-eight of the new facilities are classed as primary health centers, housing administrative personnel and other health department staff; seven are classed as secondary health centers, housing area field staff only.

All of the 17 projects receiving federal and state assistance are primary health centers, with 11 now completed and six either under construction or in the planning stage. Together they represent an investment in Hill-Burton funds of \$1,419,783.59, plus the same amount in state funds and at least that amount in local funds. Cost figures on the 28 projects financed without Hill-Burton and state matching funds are not readily available.

The 17 centers assisted with state and federal funds produced 189,301 square feet of space. The 28 centers constructed with local funds produced 477,338 square feet of area.

The State Department of Public Health, upon recommendation of the State Advisory Hospital Council, allocates the limited federal funds provided to California each year on the basis of carefully established priorities for both hospital and health center construction. Each year the hospital and health center construction program is able to assist only a small percentage of the applicants for assistance, all other applications being deferred for consideration in a subsequent year. In some instances communities and local health jurisdictions have been able to finance hospital and health center expansion exclusively with local funds and have gone ahead with their building programs.

A detailed listing of the health centers constructed with and without state and federal assistance is below.

Space standards to provide public health services in jurisdictions of various population sizes has been determined with the valued assistance of the California Conference of Local Health Officers. Prior to the current fiscal year, priority was determined on the basis of acceptable primary and secondary space, size of popula-

## Health Center Facilities Constructed Since 1946 With Hill-Burton Assistance

	Completed—Now in Operation	square reet constructed
Health jurisdiction	Location	primary center
Alameda County	San Leandro	25,820
Butte County		
Fresno County	Fresno	
Inyo County	Independence	2,510
Kings County	Hanford	5,518
Los Angeles City	Westchester	4,656
Madera County	Madera	6,250
Marin County	San Rafael	5,480
San Benito County	Hollister	2,647
Santa Clara County	San Jose	20,555
San Luis Obispo County	San Luis Obispo	6,430
	Under Construction or in Planning Stage	Square feet
Health jurisdiction	Location	primary center
Berkeley City	Berkeley	8,000
Contra Costa County	Martinez	15,000
Kern County	Bakersfield	19,700
Los Angeles City	Southwest District	15,000
Sacramento County	Sacramento	16,600
San Jose City	San Jose	11,200
Total square footage.		189,301

## Health Center Facilities Constructed Since 1946 Without Hill-Burton Assistance

	Completed—Now in Operation	Squa	re feet
Health jurisdiction	Location	Primary	Secondary
Long Beach City	Long Beach	44,000	
Los Angeles City	Southeast District	26,000	
Los Angeles City	Wilmington	8,200	
Los Angeles City	Pacoima	4,000	
Los Angeles City	Hollywood	22,400	
Los Angeles City	Canoga Park	4,000	
Los Angeles City	San Pedro	13,400	
Los Angeles City	Watts	6.510	
	North Hollywood		
	Los Angeles-Central		
	Bellflower		
	San Antonio District		
	Burbank		5,498
Los Angeles County	Willowbrook	0	2,853
Los Angeles County	Central-Los Angeles	45,023	
Monterey County	Salinas	4,759	
Napa County	NapaNapa	3,600	
Placer County	Auburn	3,075	
Riverside County	Palm Springs		1,250
	San Bernardino		,
San Francisco City-County.	Sunset District		4,500
San Mateo County	Redwood City	17,920	
	Santa Maria		3,500
Tulare County	Tulare		2,004
	Under Construction or in Planning Stage	Squa	re feet

#### Health jurisdiction Location Primary Secondary East District Los Angeles City\_ 13,500 \_\_\_Monrovia \_\_\_\_\_ Firestone District \_\_\_ Los Angeles County\_\_\_\_\_ 7,652 2,625 Los Angeles County\_\_\_\_ 38,980 Orange County .... \_Santa Ana \_\_\_\_ 477.338 Total square footage\_\_\_\_

	Recapitulation	
A.	Constructed with Hill-Burton Assistance	Square feet
	1. Now in operation	103,101
	2. Under construction or in planning stage	86,300
B.	Constructed Without Hill-Burton Assistance	
	1. Now in operation	414,581
	2. Under construction or in planning stage	62,757

Total square footage\_\_\_\_\_

## HEALTH CENTER NEEDS IN ORDER OF PRIORITY WITH INVENTORY OF EXISTING ACCEPTABLE SPACE, 1954-55

Popula- tion 7-1-53	acceptable primary space	primary space needed	Percent need met	Priorit
				A*
				A
263,500		26,100	ő	A*
250,000		25,000		A
245,700		24,600	0	A
467,600		45,800	0	A
234,900	********	23,500	0	A*
			0	A
40 200			0	A
19.300		2,600	ő	A
280,900		27,500	0	A
13,000		2.600	0	A
103,200		11,200		A*
59,000 144,200		7,400 15,300	0	A* A A A A A A A A A A A A A A A A A A
76,600	1,254	7,946	14	В
	1,618	9,182		В
	2,206	12,094		В
150,854	2,566	13,234		B
	6 580	32,420	17	B
65,600	1.360	6.740	17	B
48,600	1.045	5.155	17	B
133,100	3,000	11,200	21	B
211,900	4,720	16,680	22	В
163,602	3,827	13,173	23	C
115,800	2,896	9,604	23	C
73,700	2,429	6,471	27	C
174,200	4,759	13,141	27	C
150,900	4,674			C
49.200	2,013	4 300	32	000000000
65,500	2.685	5.415	33	Č
155,000	5,555	10.745	34	Č
60,500	2,803	4,797	37	Č
11,500	1,000	1,600	38	D
110,000	4,989	7,011	42	l D
224,500	10,000	12,700		D
	12,000	12,500		D
119,500	5,840	5,860	50	D
47 300	3.075	2 025	51	D
122,400	6.792	6.408		D
53,500	3,600	3,200	53	D
783,700	43,183	33,617	56	D
178,475	13,515	8,585	61	E
218,844	11,241	6,959		E
163,602	10,835	6,165		E
279,200	17,920	9,480		E
124 800	0,430	2,870		E
176 350	19 051	5,040		E
287.600	20.550		73	E
65,500	6,026	2.074	74	E
242,216	18,074	6,126	75	E
117,700	10,000	2,700	79	F
131,731	11,164	2,936	79	F
254,964	21,103		83	F
	20,555	3,943	87	F
49,000	5.518	782	88	F
181,700	16,600	1,900	90	F
214,600	20,294	1,406	94	F
135,981	13,778	622	96	F
	2,635			F
283,900	33,000		100	F
103,400	14,900			F
110,400				F
46 743	6 850			F
39,900	6.250			************
13,200	3,094		100	F
	7-1-53  340,200 16,400 263,5000 245,700 467,600 234,900 206,5007 4,500 10,300 10,300 10,300 10,300 10,300 10,300 10,300 10,300 10,300 10,300 10,300 10,300 11,300 1	7-1-53 space  340,200 16,400 263,500 245,700 245,700 245,700 296,800 4,800 19,300 13,300 13,300 13,300 13,300 14,200 14,200 14,200 16,600 16,18 133,856 150,854 16,18 133,856 150,854 171,400 11,076 297,900 65,500 65,600 10,104 133,100 211,900 4,720 115,800 224,900 110,00	7-1-53 space needed 340,200 33,320 16,400 2,600 255,000 255,000 245,700 24,600 234,900 23,500 245,800 21,100 4,800 26,600 19,300 27,500 18,300 27,500 18,300 27,500 18,300 1,260 18,300 1,254 18,600 1,254 18,600 1,618 18,182 13,836 2,206 15,000 1,530 16,804 150,854 2,566 1500 1,360 6,740 11,200 1,300 11,200 11,200 4,720 16,680 121,900 4,720 16,680 18,500 2,896 9,604 173,700 2,429 6,471 174,200 4,759 13,141 150,900 4,674 11,126 66,600 2,613 5,687 16,500 2,555 10,745 10,000 12,700 110,000 4,989 7,011 224,500 10,000 12,700 10,7500 18,800 12,000 11,8500 6,510, 6,290 18,800 2,500 12,000 131,731 11,164 2,936 124,800 9,355 4,145 18,800 2,635 18,1700 16,600 1,900 11,1700 11,000 1,900 12,700 12,400 12,500 131,731 11,164 2,936 14,600 20,294 1,406 135,981 13,778 622 11,800 2,635 18,1700 16,600 1,900 11,400 14,900 114,600 20,294 1,406 135,981 13,778 622 14,600 20,294 1,406 137,482 16,295 46,743 6,859	7-1-53 space needed met  340,200

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tion and adjacent services. In the 1954-55 State Plan, priority is based upon the percent of need met by acceptable primary health center space.

The opposite table, taken from the 1954-55 State Plan, shows the priority status of health jurisdictions in California indicating the existing acceptable primary space and the additional space needed. Four of the health jurisdictions included in Priority Group A have received allocations this year.

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